



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,995	03/26/2002	Norio Kashiwa	ZU-411	8981
21839	7590	05/04/2004	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			LU, C CAIXIA	
POST OFFICE BOX 1404			ART UNIT	
ALEXANDRIA, VA 22313-1404			PAPER NUMBER	

1713

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,995

Applicant(s)

KASHIWA ET AL.

Examiner

Caixia Lu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Art Unit: 1713

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Brant et al. (US 5,475,075) for the same rationale as set forth in the previous Office action mailed on October 22, 2003.

Claim Rejections - 35 USC § 103

2. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Markel (US 6,444,773).

Applicants have amended the weight average molecular weight of the macromer (ii) from 200,000 to 3,500.

Markel's working examples, Examples 1-7, 12, 15, 16, 23, 24, and Example I teach macromers prepared by polymerizing ethylene in the presence of metallocene/MAO. As shown in Table 2, the content of trisubstituted carbon per 1000 carbon is less than 0.1 for those macromer, therefore, the methyl branch in the macromer is less than 0.1 per 1,000 carbon atoms because each methyl branch much contain one trisubstituted carbon. Markel's Examples I and II teaches a branch polymer prepared by copolymerizing ethylene, norbornene and vinyl-terminated ethylene macromer with average molecular weight of 23,587. It is noted that Markel's molecular weight of the working example exceeds the newly amended macromer limitation of 3,500 of the instant claim; however, Markel does expressly claim a vinyl terminated macromer of average number molecular weight as low as 1500 and Mw/Mn as low as 2.1 which meets the amended molecular weight limitation (claim 1 of col. 16). The

Art Unit: 1713

copolymers prepared from the macromers of low molecular weights and narrow Mw/Mn have a uniformed comb-like structure.

Therefore, it would have been obvious to a skilled artisan at the time the invention was made to employ Markel's teaching to use macromers with low molecular weight and narrow molecular weight distribution to prepare comb-like polymers because such is within the generic disclosure of the reference and all of the embodiments of the reference are expected to work and in the absence of any showing of criticality and unexpected results.

Response to Arguments

3. Applicant's arguments over the rejections over Markel have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's arguments over Brant have been fully considered but they are not persuasive. Brant teaches copolymer prepared from longer olefins of C₁₀-C₁₀₀ and ethylene in the presence of a metallocene catalyst (col. 3, lines 47-54). Brant's C₁₀₀ olefin is a vinyl-terminated macromonomer having a molecular weight of 1400 which can be prepared from ethylene. When the copolymer is prepared from olefin of C₁₀₀ and ethylene, Brant's copolymer reads on the instant claim. Contrary to applicants assertion that Brant "neither discloses or suggests using an olefin of 2-8 or 4-8 carbon atoms", Brant's C₁₀₀ can be derived from olefin of 2-carbon atoms, ethylene. The rejections are still deemed proper and, thus, maintained.

Art Unit: 1713

Conclusion


5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.


Caixia Lu, Ph. D.
Primary Examiner
Art Unit 1713